

## CLAIMS:

1. Buffer management system (100) for controlling in a data communication system a delay ( $\Delta$ ) of a data unit (150) between input in the buffer management system (100) and output from the buffer management system (100), comprising:
  - a buffer (102), in which blocks (104, 106) of inputted data units (150, 152) are  
5 written with a block write rate ( $R_w$ ), and from which data units (154, 156) are read with a read rate ( $R_r$ );
  - a buffer filling measurement component (110) arranged to determine an amount ( $F$ ) of data units in the buffer (102) at a specified time instant ( $T_I$ ), and yielding a filling measurement ( $mF$ ); and
  - 10 - a data rate conversion component (108), arranged to set a ratio of the read rate ( $R_r$ ) and the write rate ( $R_w$ ), on the basis of the filling measurement ( $mF$ );  
characterized in that
  - an input time measuring component (112) is comprised, arranged to measure an input time instant ( $T_a$ ) of input of the data unit (150) in the buffer management system  
15 (100), and yielding an input time measurement ( $mT_a$ ); and
  - a delay control component (120) is comprised for controlling the delay ( $\Delta$ ) by controlling the data rate conversion component (108) on the basis of the filling measurement ( $mF$ ) and the input time measurement ( $mT_a$ ).
- 20 2. Buffer management system (100) as claimed in claim 1, comprising a read time measuring component (160), arranged to measure a read time instant ( $T_r$ ) of a first data unit (154), and yielding a read time measurement ( $mT_r$ ), and in which buffer management system (100) the delay control component (120) is arranged to control the data rate conversion component (108) on the basis of the read time measurement ( $mT_r$ ).
- 25 3. Buffer management system (100) as claimed in claim 1 or 2, in which the data rate conversion component (108) comprises a voltage controlled oscillator.

4. Buffer management system (100) as claimed in claim 1 or 2, in which the data rate conversion component (108) comprises a sample rate converter (514), arranged to produce a second number of samples (142) out of a first number of samples (140).
5. Buffer management system (100) as claimed in claim 1, comprising a decompressor (512), in which buffer management system the delay control component (120) is arranged to control the data rate conversion component (108) on the basis of a decompression delay associated with the decoder and/or an amount (W) of data units are in a second buffer (506).
- 10 6. Digital audio receiver (500) comprising:
- a radio reception component (502) with an output (503) connected to
  - a buffer management system (100) as in claim 1.
- 15 7. Headphones (530) comprising a digital audio receiver (500) as claimed in claim 6, an output of the digital audio receiver (500) being connected to a loudspeaker of the headphones.
8. Stand-alone surround sound loudspeaker cabinet (540) comprising a digital
- 20 audio receiver (500) as claimed in claim 6, an output of the digital audio receiver (500) being connected to a loudspeaker (528) in the cabinet.
9. Method of controlling in a data communication system a delay ( $\Delta$ ) of a data unit (150), between input in a digital audio receiver (500) and output from the digital audio
- 25 receiver (500), comprising:
- Writing blocks (104, 106) of inputted data units (150, 152) in a buffer (102) with a block write rate ( $R_w$ );
  - Determining a filling measurement (mF) of an amount (F) of data units in the buffer (102) at a specified time instant (TI);
  - 30 - Setting a ratio of a read rate ( $R_r$ ) and the write rate ( $R_w$ ), on the basis of the filling measurement (mF); and
  - Reading data units (154, 156) from the buffer (102) with the read rate ( $R_r$ ), the method being characterized in that:

- an input time measurement ( $mTa$ ) of an input time instant ( $Ta$ ) of input of the data unit (150) in the digital audio receiver (500) is performed; and
- the delay ( $\Delta$ ) is controlled by setting the ratio of the read rate ( $Rr$ ) and the write rate ( $Rw$ ) also on the basis of the input time measurement ( $mTa$ ).

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10. Computer program product enabling a processor to execute the method of claim 9.